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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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ORS

Applicants: A. YOKOYAMA, et al.
Application No.: 10/067,288
Filed: February 7, 2002
For: BRAKE DEVICE FOR VEHICLE
Art Unit: 3661
Examiner: Unknown

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INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §§ 1.97 AND 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May 7, 2003

Sir:

In the matter of the above-identified application, applicants are submitting herewith a copy of a communication from a foreign patent office in a counterpart foreign application and copies of the documents listed in the attached form equivalent to Form PTO-1449 for the Examiner's consideration.

This information disclosure statement is being submitted on information and belief, before the mailing date of a first office action on the merits, and, in addition, the following certification specified in 37 CFR § 1.97(e) is provided:

On information and belief, I hereby certify that no item of information in the information disclosure statement filed herewith was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in § 1.56(c) more than three months prior to the filing of this information disclosure statement.

To the extent the documents listed on the attached form equivalent to Form PTO-1449 are not in the English language, the requirement of 37 CFR § 1.98(a)(3) for a concise explanation of the relevance is satisfied by an English language translation of pertinent portions of the foreign language documents and the English language version of the foreign Office Action.


It is respectfully requested that this information disclosure statement be considered by the Examiner.

Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, Deposit Account No. 01-2135 (500.41154X00) or credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

By


Gregory E. Montone
Reg. No. 28,141

GEM/dlt

1300 North Seventeenth Street, Suite 1800
Arlington, Virginia 22209
Telephone: (703) 312-6600
Facsimile: (703) 312-6666

Attachments: Foreign Search Report
Form PTO-1449

02002016.0

Partial translation of the documents
considered to be relevant

DE 198 26 373 A1

Col. 2, lines 15-26:

Preferably, the breather line is integrated into a particularly multi-core cable serving for the current supply to the electric motor and, where applicable, for the transmission of a signal indicative of, e.g., the position of the wheel brake device (claim 4). This has the advantage that solely one water-proof lead-through through the housing of the electric motor is necessary, through which the ventilation of the inner space of the housing of the electric motor as well as the current supply and the signal transmission is performed. Further, only one line needs to be laid from the wheel brake device to the water-proof and/or dirt-sheltered place of the vehicle.

Column 4, lines 22-27:

As a current supply the electric motor 24 comprises a multi-core cable 66 which is led through the housing 54 of the electric motor 24 at the circumference by means of a socket 68 in a water-proof way. As an example, the cable 66 can also serve for the transmission of a signal indicating the current position of the wheel brake device 10.

Column 4, lines 31-33:

In the embodiment they (the multi-core cables 66) each comprise four cores 72 which are twisted around each other and are accommodated together in a tube-shaped sheath 74.

Column 4, lines 39-42:

In the case of the cable 66 shown in Fig. 4 the cores 72 are arranged around a tube-shaped breather line 70 which concentrically extends within the sheath 74 as the central core of the coaxial cable.

Column 4, lines 54-61:

As shown in Fig. 6 the cable 66 with the integrated breather line 70 is led from the wheel brake device 10 arranged inside a rim 76 of a vehicle wheel 78, for a certain distance along a suspension strut 80 upwards, and subsequently through a bulkhead 82 into a water-proof and dirt-sheltered space, e.g., an engine compartment or a passenger compartment of the vehicle.

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Column 3, line 50, to column 4, line 1:

An electrical brake system 1 comprises four wheel brake means 2 provided at the wheels of the vehicle. Each wheel brake means 2 consists of a vehicle brake actuator 3 and an electronic control means 4 related thereto. The actuators 3 are electrically operated and controlled via the electronic control means 4. A pedal simulator 5 converts movements of a brake pedal 6, i.e. the force applied by the driver and/or the pedal travel, into electrical signals which are supplied to a control unit 7. In the control unit 7 target values for the brakes are calculated on the basis of these signals, particularly for the deceleration of the vehicle and the brake moments which are to be generated. The target values calculated by the control unit 7 are transmitted via a communication system 8, e.g. via bidirectional data lines or a bus system, to the control means 4 of the wheel brake means 2. Vice versa, the control means 4 send feedback data, e.g. the actual values of the brake moments, via this communication system 8 to the control unit 7.

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Column 1, line 63, to column 2, line 14:

Fig. 1 shows the schematic structure of a brake device 1 for a motor vehicle having four wheels and, accordingly, four brakes 2, each including a brake disk 3 and an operating means representing a wheel brake actuator 4. The wheel brake actuators 4 are integrated into an associated brake caliper 5, which represents a sliding caliper, and are, in this way, combined to a structural unit. Via brake pads 6 a brake moment is exerted on the brake disk 3 when the wheel brake actuator 4 is operated. Each wheel brake actuator 4 comprises a power electronic/control logic 8 which is provided with control signals by an associated control means 9, e.g. for the target moment of a wheel brake actuator motor still to be described, and which transmits feedback values, e.g. the actual moment of the actuator motor, to the control means 9.

The power electronic/control logic 8 also receives feedback values from the wheel brake actuator 4, e.g. about the engine speed, the crank angle and/or the pressure force of the brake pads.

Column 2, line 44-55:

In Fig. 1 feed lines are bold and are not provided with arrows, control lines are weakly drawn and are provided with arrows corresponding to their respective direction of signal flow.

The two control devices 9 operating independently of each other can communicate with each other via a bi-directional signal line and, thus, recognize the break-down of a brake circuit 16 or 17 in the respectively other brake circuit, and can take appropriate emergency measures, if necessary. The brake device can also be supplemented by a - here not shown - third control device which monitors the two brake circuit control devices as a supervisor.